

C-A OPERATIONS PROCEDURES MANUAL

ATTACHMENT

4.56.ar RHIC 8z1 Sweep Checklist

Text Pages 1 through 6

Hand Processed Changes

HPC No.	Date	Page Nos.	Initials
<u>04-03</u>	11/20/03	_____	<u>PFI</u>
_____	_____	_____	_____
_____	_____	_____	_____

Approved by: _____
 Collider-Accelerator Department Chairman Date

P. Ingrassia

CA-OPM-ATT 4.56.ar RHIC Zone 8z1 Sweep Checklist -- **TEAM A**

Team Leader (TLA) _____ Sweeper#2 (S2) _____

Sweeper#3 (S3) _____

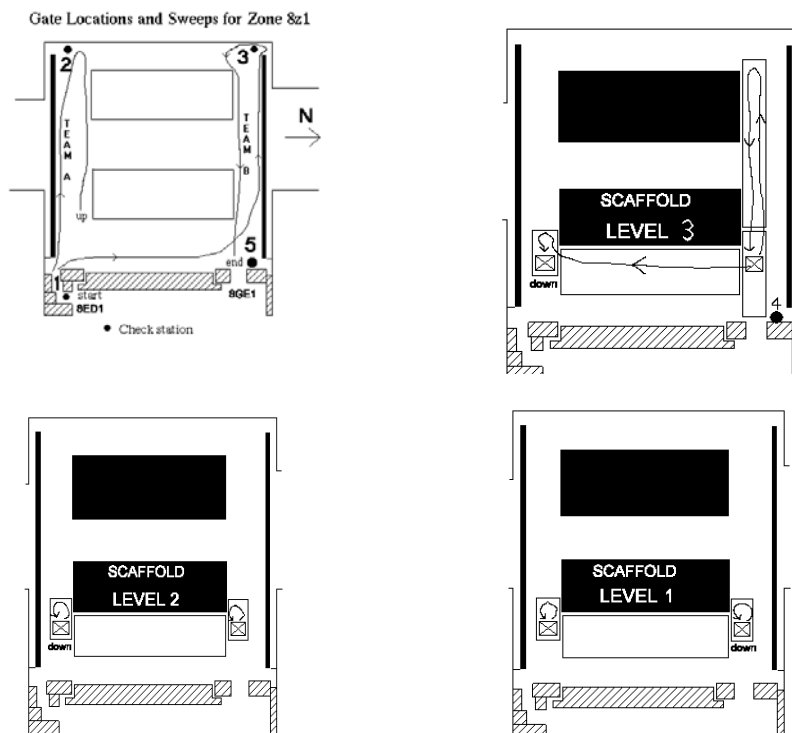
Time: _____ Date: _____

Note:

IF any workers are encountered during the sweep, **THEN** contact the OC to see if the sweep should be aborted. Workers shall leave the enclosure **WITH** the sweep team. **IF** the workers crash out of the enclosure **AND** do not exit with the sweep team, **THEN** the sweep shall be re-started.

Prerequisites

- Three persons to perform the sweep, one person may be supplied by the Phenix collaboration
- Phenix 8z1 Sweep Checklist (TEAM A) (two pages/ three sides)
- Zones 7z1 and 8z2 should be searched and secured first
- Required Tools: at least three flashlights
- Walkie-talkies (one each for TL), and TLDs (one for each C-AD staff member)
- All Doors closed THEN 8z1 set to Controlled Access
- The **lower scaffold** (west wall) must be in the down position
- Keys: One Sweep Reset key S/R015 (Team Leader), and two Controlled Access keys CA014 (S2+S3)
- Lock, & Red Tag for Muon Steel South East third level Ladder barricade
- TLA MUST be someone who will readily climb the ladders and walk the upper platforms



CONTINUED ON REVERSE SIDE

Note 1:

Before beginning the sweep:

- Contact the experiment shift leader to tell them a sweep will be performed.
- Ask the experiment to turn off their magnet(s)
- IF magnet(s) cannot be turned off THEN carry no ferrous objects while sweeping near the magnet(s) and obey postings and fencing to stay away from fields greater than 500 gauss.

Note 2:

The shield block wall must be completed and inserted before the sweep may begin.

Note 3:

IF EITHER THE EAST OR WEST CARRIAGE, OR BOTH CARRIAGES ARE NOT FULLY INSERTED THEN THE SWEEP TEAMS MUST SWEEP THE INTERIOR “GROUND LEVEL” PORTION OF THE DETECTOR.

Check

- ___ 1 TLA contacts Phenix Shift Leader (person in charge) and gets two Phenix staff members to assist in the sweep. (a total of six Operations group members may be used instead)
- ___ 2 TLA instructs the two Phenix staff members that their role is:
 - To stand static watch as assigned (S3 position in the SE corner of the hall), and
 - To challenge any person, other than the 4 sweep team members, to come to their position and await to be escorted out of the hall.
 - TLA gives each Phenix staff member a CA key and a flashlight.
- ___ 3 Sweep team goes to 8GE1 (inner chain link fence gate) in the Phenix experimental hall building and TL asks MCR for simultaneous release
- ___ 4 TLA opens 8GE1 gate by turning the CA014 key in the Controlled Access key-switch AT THE INNER CHAIN LINK FENCE GATE while operator in MCR presses simultaneous release for 8GE1.
- ___ 5 Sweep Team passes through 8GE1.
- ___ 6 Sweep Team splits up – Team A to the South, Team B to the North
- ___ 8 TLA and S2 and S3 walk to mouth of labyrinth for gate 8ED1.
- ___ 9 TLA instructs S3 to stand static watch at the mouth of the labyrinth for gate 8ED1.
- ___ 10 TLA walks through “parafin door” to gate 8ED1.
- ___ 11 TLA resets gate 8ED1 by turning the S/R015 key in the RESET keyswitch next to the gate.
- ___ 12 TLA observes the gate reset lamp lights.
- ___ 13 TLA STARTS SWEEP by turning the S/R015 key CW in the SWEEP key-switch on 8XCS1 next to 8ED1 gate. (The PASS box in step 11 contains both SWEEP and RESET keyswitches).
- ___ 14 TLA observes AREA SECURED lamp blink once.
- ___ 15 TLA sweeps up the labyrinth and joins S2 & S3.
- ___ 16 TLA instructs S2 to go to the muon steel panels in the SE corner of the hall. TLA walks to the southwest side of the experimental hall while S3 remains static in SE corner.
- ___ 17 TLA goes to the SW corner of the hall and shines the flashlight in between each muon steel panel to search for personnel. TL instructs S2 to do the same flashlight search between the steel panels.
- ___ 18 TLA instructs S2 to search SE corner tower ladder and the floors above .
- ___ 19 S2 looks to see if the barricade is in place on the top floor to block access to the top of the muon steel.

CONTINUED ON NEXT SHEET

- ___ 20 IF the barricade is not in place, THEN S2 climbs the ladder, searches the top of the south muon steel, installs and locks the barricade in place, then returns to ground level
- ___ 21 TLA instructs S2 to walk to map position 2 in the SW corner of the hall and to stand static watch.
- ___ 22 TLA searches the **muon steel** ladder in the SW corner of the hall and searches the top decks for personnel..
- ___ 24 TLA searches exhaust/supply fan vent port in the southwest area of the hall and verifies the vent barrier is secured.

Note 4:

IF the west carriage is opened or the walkways not accessible, THEN TLA sweeps level 2 platform in the South East corner.

- ___ a TLA climbs ladder to second level platform of west carriage and walks north to meet TLB
- ___ b TLA and TLB climb ladder to third level platform of west carriage.
- ___ c TLA sweeps third level platform while TLB climbs to fourth level and sweeps
- ___ d TLA joins TLB in north west corner of third level and TLA and TLB sweep down to level 2.
- ___ e TLA sweeps south on level two and down the southwest ladder to the southwest corner of the hall.
- ___ 25 TLA sets second check station by turning S/R015 key CW in the SWEEP key-switch on 8XCS2 in SW corner of Phenix hall.
- ___ 26 TLA observes AREA SECURED lamp blink once.
- ___ 27 **TLA SHOUTS to TLB that check station TWO is reset and that check station THREE may be reset**
- ___ 29 TLA sweeps east, looking under the floor grating. **IF the East or West carriage is withdrawn, THEN he/she enters the detector to search for personnel**
- ___ 30 TLA sweeps to NE corner at 8GE1 and joins TLB.
- ___ 31 TLA AND TLB climb the scaffold to the **fourth** level
- ___ 32 TLA stands static watch while TLB walks west on the platform that runs parallel to the north muon steel
- ___ 33 TLA sweeps south along the **fourth** floor catwalk AFTER TLB returns to the ladder.
- ___ 34 TLA sweeps the south end of the platform **and landing**, while TLB does the same at the north end.
- ___ 35 TLA and TLB go down to level **three** on their respective ladders.
- ___ 36 TLA sweeps the south end of the platform **and landing**, while TLB does the same at the north end.
- ___ 37 TLA and TLB go down to level **two** on their respective ladders.
- ___ f **TLA sweeps the south end of the platform and landing, while TLB does the same at the north end.**
- ___ g **TLA and TLB go down to ground level on their respective ladders.**
- ___ 38 TLA calls to TEAM A (S2 & S3) and tells them to sweep 8GE1. Team A meets Team B at the gate
- ___ 39 TLA ENDS SWEEP at fifth check station (8XCS5) by turning S/R015 key in the SWEEP keyswitch on the box inside the gate
- ___ 40 TLA observes AREA SECURED lamp remains lit.
- ___ 41 TLA calls MCR for simultaneous release at 8GE1 (inner chain link gate).
- ___ 42 Sweep Team sweeps out 8GE1.
- ___ 43 TLA closes the 8GE1 plug door by doing the following:
- ___ set plug drive motor energy disconnect switch to the ON position
 - ___ insert and turn the S/R015 key in the drive motor enable keyswitch (RHIC Safety Systems 8GE1 Plug Door Lockout)
 - ___ PRESS AND HOLD the close pushbutton
 - ___ IF the door does not move THEN pull the red crash button on the detector side of the plug door.
- ___ 44 WHEN the plug is closed, TL resets the 8GE1 gate by turning the S/R015 key in the RESET keyswitch.
- ___ 45 TLA observes Gate Reset lamp light
- ___ 46 TLA contacts MCR to verify 8z1 sweep is good and gates (8GE1 and 8ED1) are reset

Note:

If Area Secured Lamp Is Not Lit Then contact MCR to verify if sweep is good

- ___ 47 TLA collects CA keys and flashlights from Phenix staff members and sends them on their way
- ___ 48 After returning to MCR and verifying that all checklist information is filled out completely, TLA files the TEAM A and TEAM B checklists in FYxx Sweep Log binder.

CA-OPM-ATT 4.56.ar RHIC Zone 8z1 Sweep Checklist -- **TEAM B**

Team Leader (TLB) _____ Sweeper#2 (S2) _____

Sweeper#3 (S3) _____

Time: _____ Date: _____

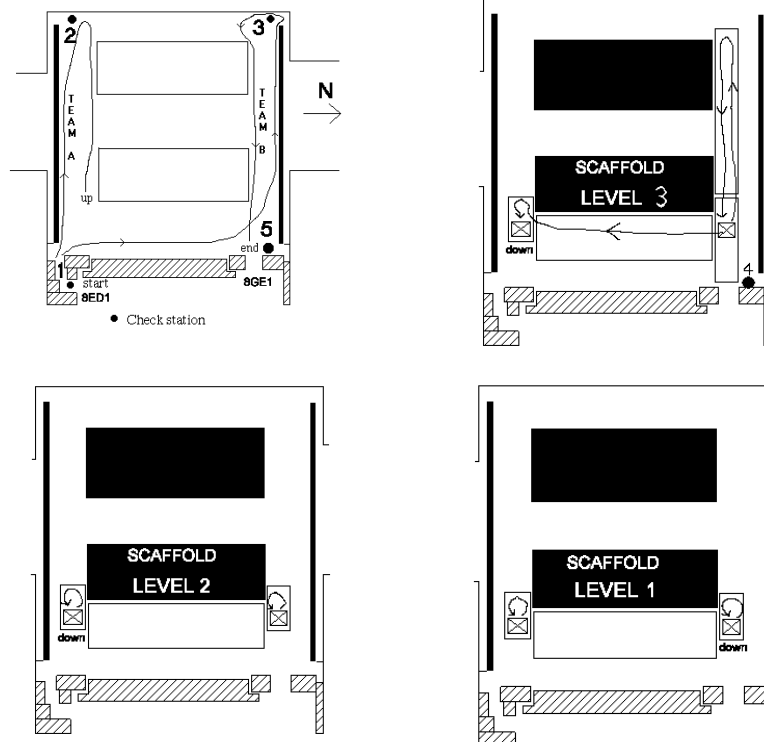
Note:

IF any workers are encountered during the sweep, **THEN** contact the OC to see if the sweep should be aborted. Workers shall leave the enclosure **WITH** the sweep team. **IF** the workers crash out of the enclosure **AND** do not exit with the sweep team, **THEN** the sweep shall be re-started.

Prerequisites

- Three persons to perform the sweep, one person may be supplied by the Phenix collaboration
- Phenix 8z1 Sweep Checklist (TEAM B) (one page/two sides)
- Zones 7z1 and 8z2 should be searched and secured first
- Required Tools: at least two flashlights
- Walkie-talkies (one each for TL) and TLDs (one for each C-AD staff member)
- All Doors closed THEN 8z1 set to Controlled Access
- The **lower scaffold** (west wall) must be in the down position
- Keys: One Sweep Reset key S/R015 (Team Leader), and Two Controlled Access keys CA014 (S2 + S3)
- Lock, & Red Tag for Muon Steel North East third level Ladder barricade
- TLB MUST be someone who will readily climb the ladders and walk the upper platforms

Gate Locations and Sweeps for Zone 8z1



CONTINUED ON REVERSE SIDE

Note 1:

IF EITHER THE EAST OR WEST CARRIAGE, OR BOTH CARRIAGES ARE NOT FULLY INSERTED THEN THE SWEEP TEAMS MUST SWEEP THE INTERIOR "GROUND LEVEL" PORTION OF THE DETECTOR.

Note 2:

TLB MUST NOT reset check station THREE until he/she hears it is ok to do so from TLA

Check

- ___1 Team B enters 8z1 through 8GE1 along with Team A
- ___2 Sweep teams split up, Team A to the South, Team B to the North
- ___3 TLB instructs S3 to stand static watch "at ground level" inside 8GE1 (map position 5).
- ___4 TLB instructs S2 to walk to the NE corner of the hall to search between steel panels
- ___5 TLB walks to NW corner (map position 3) of the enclosure.
- ___6 TLB shines the flashlight between each muon steel panel to search for personnel.
TLB instructs S2 to do the same flashlight search between the steel panels.
- ___7 S2 looks up the NE ladder to search for personnel on the floors above.
- ___8 S2 looks to see if the barricade is locked in place on the third floor to block access to the top of the muon steel
- ___9 IF the barricade is not in place THEN S2 climbs the ladder, searches the top of the north muon steel, installs and locks the barricade in place, then returns to ground level.
- ___10 TLB calls S2 to come to the NW corner of the enclosure.
- ___11 S2 stands static watch in the NW corner.
- ___12 TLB searches the back of the detector along the west wall of the enclosure.
- ___15 TLB looks up tower ladder in NW corner of enclosure to search the floors next to north muon steel panels

Note 3:

IF the west carriage is opened or the walkways not accessible, THEN TLB sweeps levels 2 & 3 platforms as well as the level 4 walkway

- ___a TLB climbs ladder to second level platform of west carriage and waits to meet TLA
- ___b TLB and TLA climb ladder to third level platform of west carriage.
- ___c TLB climbs to fourth level and sweeps fourth level while TLA sweeps third level
- ___d TLB climbs down and meets TLA in north west corner of third level and TLA and TLB sweep down to level 2.
- ___e TLB sweeps down to level 1 using the ladder in the northwest corner. ___16 TLB resets check station 3 after hearing from TLA that check station 2 was reset.
- ___17 TLB sets third check station by turning the S/R015 key CW in the SWEEP key-switch on 8XCS3 in the NW corner of the Phenix hall.
- ___18 TLB observes AREA SECURED lamp blink once.
- ___19 TLB sweeps to NE corner of the enclosure – **IF the East or West carriage is withdrawn, THEN he/she enters the detector to search for personnel**
- ___20 TLB sweeps to NE corner and joins TLA.
- ___21 TLA and TLB climb the ladder in the NW corner to level **four**.
- ___22 TLB walks west on the catwalk that is parallel to the north muon steel while TLA stands static watch
- ___23 TLB searches then entire enclosure from the catwalk then sweeps back and joins TLA.
- ___24 TLB resets check station 4 (8xCS4) while TLA sweeps south on the **fourth** level catwalk along the east wall.
- ___25 TLB sets fourth check station by turning the S/R015 key CW in the SWEEP key-switch on 8XCS4 on the east wall above 8GE1.
- ___26 TLB observes AREA SECURED lamp blink once
- ___27 TLB sweeps the north end of the platform **and landing**, while TLA does the same at the south end.
- ___28 TLB and TLA go down to level **three** on their respective ladders.
- ___29 TLB sweeps the north end of the platform **and landing**, while TLA does the same at the south end.
- ___30 TLB and TLA go down to level **two** on their respective ladders.
- ___f TLB sweeps the north end of the platform and landing, while TLA does the same at the south end.
- ___g TLB and TLA go down to ground level on their respective ladders.
- ___31 TLB sweeps to 8GE1 and calls S2 to join him/her and S3 at 8GE1.
- ___32 Team B awaits Team A so that all will exit together.